

# SHAPING YOUR CAREER:

IT ISN'T JUST ABOUT THE TECHNICAL EXPERTISE.

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NAC-SETAC 2014

# Outline

Introduction

Qualities of a Good Scientist

Graduate School Survival Skills

Employability Skills

Skills Mapping

Looking Forward

# Introduction

"To know the road ahead, ask those coming back."

- Chinese proverb

Academic career

Research at an EPA Lab

Contractor Company to the EPA - ecotoxicology then matrixed to software tester  
Test Lead

Accepted current position as Senior Professional: Quality (Quality Assurance)

# Qualities, Habits, Skills

Curiosity and Reasoning

Patience

Optimism

Detail-Oriented, Concentration-Focus

Open-Minded, Flexibility/Adaptability

Creative

Tenacious and Determined

Team Player (Interpersonal Skills) and Independent

Good Communicator (written and spoken)

Interdisciplinary - Time Discipline

# What makes a successful scientist?

Which three of these are the most valuable for a successful career in science?

***Discipline/Work ethic*** (62%)



***Intelligence*** (54%)



**Luck** (38%)



**Intuition** (32%)



***Colleagues*** (27%)



**Money** (16%)



**Pedigree** (7%)



<http://www.benchfly.com/blog/what-makes-a-successful-scientist/>

# Pat yourself on the back



The communication-leadership link:

“It’s no coincidence that environmental scientists who lead the pack, both within academia and beyond, are good communicators. These scientists know how to articulate a vision, focus a debate and cut to the essence of an argument. They can make a point compelling, even to those who disagree. They talk about their science in ways that make people sit up, take notice, and care.”

*Nancy Baron-Leopold Leadership Program*

# Qualities, **Habits**, Skills

**Be Proactive** - challenge yourself to come up a new idea daily, try it out even though many fail; want to do something like write a review? Tell your advisor.

**Set a goal** - write it down, re-evaluate

**Prioritize** with mercenary zeal

**Think 'Win-Win'** in experiments and interactions

# Habits (continued)

Listen - then speak

Collaborate

Step away for a holistic perspective and  
keep a life balance

<http://www.benchfly.com/blog/the-seven-habits-of-a-highly-successful-scientist/>



# Survival Skills

"Being a graduate student is like becoming all of the Seven Dwarves. In the beginning you're Dopey and Bashful. In the middle, you are usually sick (Sneezy), tired (Sleepy), and irritable (Grumpy). But at the end, they call you Doc, and then you're Happy."

- *Ronald T. Azuma*

# Survival

Know the answer to the question, “Why the hell am I doing this?”

Academia IS a business and ‘graduate student’ IS a job title - treat it that way

Graduate school is not primarily about taking courses

# Survival

Yes it's about the research, the technical expertise . . . BUT

Graduate school is really about all the things that happen while you are busy doing something else.

# The 'Hidden' benefits

You need to do <insert>, then you figure out a way = **Initiative** (gets things done)

You do it in a group or collaboratively = **Leadership**

It's supposed to work but it doesn't and you stick with it = **Tenacity** (build a thick skin and do something every day that moves you closer to your goal = **Discipline**)

The experimental results don't make sense but you determine why or how to interpret them, you have a problem and you solve it, you make the process more efficient or improve the success rate = **Critical Thinking**

# The 'Hidden' benefits

Your experimental results force you into a new direction or even a new discipline = **Flexibility**

Your major professor really doesn't get along with <Insert Name> but you manage to work with that person, use their equipment or tap into their skills = **Interpersonal Skills**

# The 'Hidden' benefits

You have to successfully juggle your own coursework, teaching, mentoring, going to meetings, doing a demo at that special outreach function, parenting, revising a paper and finding time to eat and exercise with some life balance thrown in = **Planning, Time Management and Organizational Skills**

# The 'Hidden' benefits

Dread having to present in journal club or seminar, have to give a presentation? Need to publish your research in a peer-reviewed journal? Confidence is everything. Plan, prepare, practice, go to meetings, network, socialize = **Communication Skills**

# The 'Hidden' benefits

Communicate in writing



Communicate face to face

Can identify problems



Can think creatively

Can solve problems logically



Respect the views and contributions of others

Are punctual and manage own time



Adaptable – can change direction

Will ask questions – able to learn from mistakes



Have a positive outlook (go for it)



# Employability Skills (Transferable Skills)

Interpersonal skills may be the single most important factor for getting hired.

Employers look for competency in both written and verbal communication skills.

Critical Thinking - the ability to solve problems and make decisions is highly desired in employees.

# Employability Skills (Transferable Skills)

You are a life-long learner and learning new skills to stay ahead of the competition is definitely a trait employers look for so therefore you have Personal Development, Self-Motivation (Initiative), Confidence and Self-Management skills.

# Employability Skills (Transferable Skills)

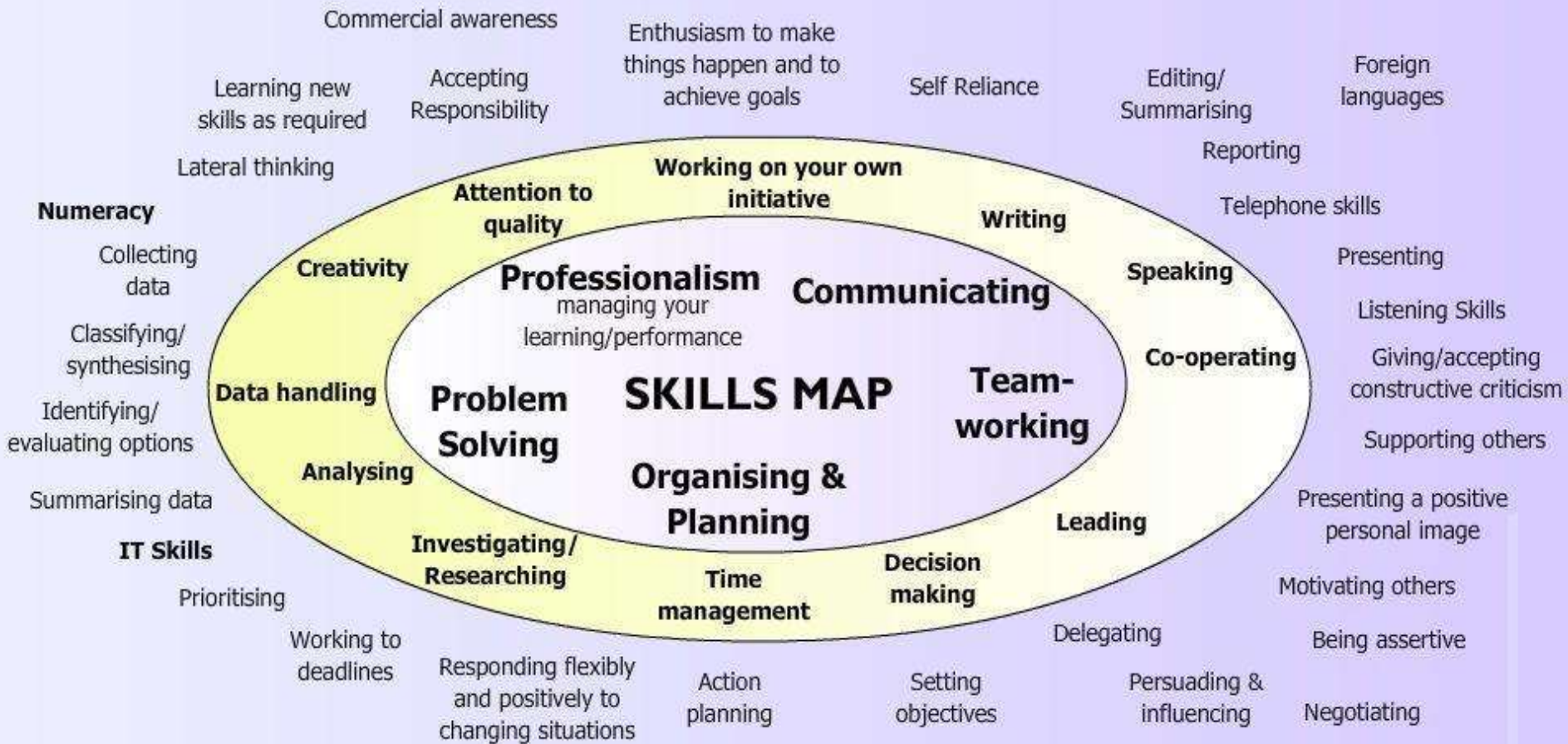
You can give presentations and convey your vision clearly, employers seek **Presentation Skills**.

You have organized a course, provided tours, organized a research cruise, etc. demonstrating your **Leadership Skills**.

# Employability Skills (Transferable Skills)

You have competency and confidence working with numbers, statistics and graphs, an essential skill in any organization therefore you have Numeracy Skills.

Everything you do requires the use and understanding of computers and computer programs therefore you have IT Skills.



# Skills Mapping

This presentation has done a lot of skills mapping, it is in essence taking something that you do and putting it in different terms. Numerous resources - use them.

If you can dissect the pituitary from a killifish you most certainly have dexterity. (And an awfully good microscope and tools but that's a different presentation)

### **Understanding and creating new knowledge**

- Research methodology
- Technical skills

### **Networking**

- Building contacts at conferences
- International collaboration
- Mentors

### **Problem solving**

- Analysing information
- Generating creative solutions
- Securing research funding

### **Working independently**

- Using your initiative
- Independent learning
- Time management

## **PhD Skills**

Bruce Woodcock [bw@kent.ac.uk](mailto:bw@kent.ac.uk)  
University of Kent Careers  
[www.kent.ac.uk/careers](http://www.kent.ac.uk/careers)

### **Project management**

- Conceptualising, planning, designing, delivering & implementing projects

### **Cutting edge research skills**

- Quantitative and qualitative data analysis
- IT skills

### **Drive to succeed**

- Determination and motivation over long periods
- Resilience

### **Communicating complex ideas**

- Presenting ideas clearly to lay audience
- Teaching/mentoring

# What Now?

You have only just begun.

"Yes. You are now ready to receive the black belt and begin your work." - *excerpted from Built to Last: Successful Habits of Visionary Companies, by: James C. Collins and Jerry I. Porras.*



# What Now?

In addition to research, analysis, writing and editing, some of the most valued and least-discussed transferable skills include leadership, decision-making, the ability to navigate organizational processes, and sales and marketing.

Every successful academic is implementing these skills, whether they know it or not.

# What Now?

At its core, grant-writing is an exercise in pitching a sale to a funding agency.

Writing a research paper is about marketing a story to editors and reviewers. Going on the job market is about selling one's skill set, one's research program, and one's future potential as a faculty member.

# What Now?

All of these skills are in demand in non-academic contexts and form the basis of “career capital,” which can be leveraged to create career success both inside and out of academia in a variety of career paths.

# What Now?

Don't take your many skills for granted - learn how to sell yourself.

Re-evaluate frequently and find ways to strengthen your weaknesses - Build your Career Capital.

Take the time to learn what skills an employer wants, how to assess your own competencies and how to map your skills to employability skills.

# Thank you!

Any questions?

Everyone is gifted but some people never open their package.

# Extra Materials - Action Plan

Start by identifying your strengths, areas for improvement, and areas for development.

Consider the four main reasons why development is necessary:

- You are average in a skill that needs to be better developed
- You are weak in an important area
- You are untested (have no experience) in an important area
- You overuse or overdo a strength to the point that it is causing problems for you

# Extra Materials - Managers

Be aware of employee strengths, areas for improvement, and areas for development. This information should come from your own recent observations of the employee's performance combined with credible feedback from other observers. Begin incorporating Lominger terminology within your coaching and feedback and assist employees with the translation. Familiarize yourself with all available resources for development planning and coach employees in how and when to use them.

Encourage quarterly development checkpoints with staff. During these checkpoints, managers and employees should collaboratively evaluate progress against an active plan and/or determine whether new priorities have emerged that require mid-course adjustments to the plan

# Extra Materials - Action Plan 2

**Prioritize your areas for development and improvement.** These may include completely new priorities as well as carry-over items from your last development plan.

**Determine the underlying competency development needs for your priorities and identify action items for your Development Plan.** Consider each category of development need and then reference the appropriate resource(s) to assess proficiency, diagnose issues, and identify action items.



# Extra Materials - 8 Relevant Employability Skills

- **Communication skills** that contribute to productive and harmonious relations between employees and customers
- **Teamwork skills** that contribute to productive working relationships and outcomes
- **Problem solving skills** that contribute to productive outcomes
- **Self-management skills** that contribute to employee satisfaction and growth
- **Planning and organizing skills** that contribute to long-term and short-term strategic planning
- **Technology skills** that contribute to effective execution of tasks
- **Life-long learning skills** that contribute to ongoing improvement and expansion in employee and company operations and outcomes
- **Initiative and enterprise skills** that contribute to innovative outcomes.

# Extra Materials - 67 Lominger Competencies

67 Competencies, 19 Stallers and Stoppers, and 10 Universal Performance Dimensions represent information gathered from multi-year studies and longitudinal research. These studies focused on how and why some executives gain success while others derail their careers.

<http://www.slideshare.net/bcarpitella/lominger-overview>

<http://library.constantcontact.com/download/get/file/1107007864445-56/Lominger+Competencies.pdf>

Free Online Courses:

<https://www.udemy.com/blog/lominger-competencies/>

# Extra Materials - 19 Stallers and Stoppers

## Unable to Adapt to Differences

Poor Administrator

Overly Ambitious

Arrogant

Betrayal of Trust

Blocked Personal Learner

Lack of Composure

Defensiveness

Lack of Ethics and Values

Failure to Build a Team

## Failure to Staff Effectively

Insensitive to Others

Key Skill Deficiencies

Non-Strategic

Overdependence on Advocate

Overdependence on a Skill

Overmanaging

Performance Problems

Political Missteps

# Extra Materials - 9 Performance Factors

The 9 Performance Factors represent a key aspects of how performance is achieved. The 9 Dimensions were derived from studies on performance measurement and apply to all jobs.

The 9 Performance Factors

1. **Quality of Work Output** 1.0 - 636x556
2. **Timeliness of Delivery of Output**
3. **Quantity of Output of Work**
4. **Use of Resources**
5. **Customer Impact/Value Added**
6. **Independent Work Ability**
7. **Team/Unit Contribution**
8. **Work Habits**
9. **Adding Skills and Capabilities**

**1. Quality of Work Output.** The quality of goods and services produced in terms of errors, waste and rework required to meet standards, not considering other things like timeliness or quantity

Associated Learning Competencies

- 15 Customer Focus
- 17 Decision Quality
- 24 Functional / Technical Skills
- 51 Problem Solving
- 63 Total Work Systems (TQM)

# Extra Materials - Lominger Competencies

## 12) Conflict Management

Steps up to conflicts, seeing them as opportunities; reads situations quickly; good at focused listening; can hammer out tough agreements and settle disputes equitably; can find common ground and get cooperation with minimum noise.

# Extra Material - #12 Conflict Management

FACTOR III: COURAGE

CLUSTER H: DEALING WITH TROUBLE

## 12 Conflict Management

*Conflict is inevitable, but combat is optional.* Max Lucado – American author

### Section 1: Your Development Need(s)

#### Unskilled

- Avoids conflict in situations and with people
- May accommodate, want everyone to get along
- May get upset as a reaction to conflict, takes it personally
- Can't operate under conflict long enough to get a good deal
- Gives in and says yes too soon
- Gets into conflict by accident; doesn't see it coming
- Will let things fester rather than dealing with them directly
- Will try to wait long enough for it to go away
- May be excessively competitive and have to win every dispute

*Select one to three of the competencies listed below to use as a substitute for this competency if you decide not to work on it directly.*

Substitutes: 2,3,4,8,9,11,13,16,31,33,34,36,37,41,50,51,52,57

### **Skilled**

- Steps up to conflicts, seeing them as opportunities
- Reads situations quickly
- Good at focused listening
- Can hammer out tough agreements and settle disputes equitably
- Can find common ground and get cooperation with minimum noise

### **Overused Skill**

- May be seen as overly aggressive and assertive
  - May get in the middle of everyone else's problems
  - May drive for a solution before others are ready
  - May have a chilling effect on open debate
  - May spend too much time with obstinate people and unsolvable problems
- Select one to three of the competencies listed below to work on to compensate for an overuse of this skill.*  
Compensators: 2,3,31,33,34,36,37,40,41,51,52,56,60,64

### **Some Causes**

- Avoid conflict
- Can't negotiate
- Get too emotional
- Slow to catch on
- Take things personally
- Too sensitive

### **Leadership Architect® Factors and Clusters**

This competency is in the Courage Factor (III). This competency is in the Dealing with Trouble Cluster (H) with: 9, 13, 34, 57. You may want to check other competencies in the same Factor/Cluster for related tips.

## The Map

One survey found that managers were spending 18% of their time dealing with direct face-to-face conflict. Most organizations are decentralized and compartmentalized which sets up natural conflict, group to group. Whenever you form two groups, conflict follows. Gender and race inroads have probably brought with them increased conflict. Competition has heated up, making speed and agility more important but also created more conflict and less relaxed reflection. There is data-based conflict—my numbers are better than your numbers. There is opinion conflict—my opinion has greater value than yours. There is power conflict—this is mine. And there is unnecessary conflict due to how people position themselves and protect their turf. Dealing with and resolving all these kinds of conflict is more important and frequent than it used to be.

## Section 2: Learning on Your Own

*These self-development remedies will help you build your skill(s).*

### Some Remedies

- 1. Caught in a win/lose predicament? Seek cooperative relations.** The opposite of conflict is cooperation. Developing cooperative relationships involves demonstrating real and perceived equity, the other side feeling understood and respected, and taking a problem oriented point of view. To do this more: increase the realities and perceptions of fairness—don't try to win every battle and take all the spoils; focus on the common-ground issues and interests of both sides—find wins on both sides, give in on little points; avoid starting with entrenched positions—show respect for them and their positions; and reduce any remaining conflicts to the smallest size possible.
- 2. Causing unnecessary conflict? Choose words appropriately.** Language, words and timing set the tone and can cause unnecessary conflict that has to be managed before you can get anything done. Do you use insensitive language? Do you raise your voice often? Do you use terms and phrases that challenge others? Do you use demeaning terms? Do you use negative humor? Do you offer conclusions, solutions, statements, dictates or answers early in the transaction? Give reasons first, solutions last. When you give solutions first, people often directly challenge the solutions instead of defining the problem. Pick words that are other-person neutral. Pick words that don't challenge or sound one-sided. Pick tentative and probabilistic words that give others a chance to maneuver and save face. Pick words that are about the problem and not the person. Avoid direct blaming remarks; describe the problem and its impact.
- 3. Tensions escalating? Practice Aikido.** Aikido is the ancient art of absorbing the energy of your opponent and using it to manage him/her. Let the other side vent frustration, blow off steam, but don't



### **Section 3: Learning from Feedback**

*These sources would give you the most accurate and detailed feedback on your skill(s).*

#### **1. Development Professionals**

Sometimes it might be valuable to get some analysis and feedback from a professional trained and certified in the area you're working on—possibly a career counselor, a therapist, clergy, a psychologist, etc.

#### **2. Human Resource Professionals**

Human Resource professionals have both a formal and informal feedback role. Since they have access to unique and confidential information, they can provide the right context for feedback you've received.

Sometimes they may be "directed" to give you feedback. Other times, they may pass on feedback just to be helpful to you.

#### **3. Natural Mentors**

Natural mentors have a special relationship with you and are interested in your success and your future. Since they are usually not in your direct chain of command, you can have more open, relaxed, and fruitful discussions about yourself and your career prospects. They can be a very important source for candid or critical feedback others may not give you.

#### **4. Peers and Colleagues**

Peers and colleagues have a special social and working relationship. They attend staff meetings together, share private views, get feedback from the same boss, travel together, and are knowledgeable about each other's work. You perhaps let your guard down more around peers and act more like yourself. They can be a valuable source of feedback.

### **Section 4: Learning from Develop-in-Place Assignments**

*These part-time develop-in-place assignments will help you build your skill(s).*

- Integrate diverse systems, processes, or procedures across decentralized and/or dispersed units.
- Manage the furnishing or refurnishing of new or existing offices.
- Relaunch an existing product or service that's not doing well.
- Handle a tough negotiation with an internal or external client or customer.
- Manage a dissatisfied internal or external customer; troubleshoot a performance or quality problem with a product or service.
- Resolve an issue in conflict between two people, units, geographies, functions, etc.

## **Section 5: Learning from Full-Time Jobs**

*These full-time jobs offer the opportunity to build your skill(s).*

### **□ 1. Change Manager**

The core demands to qualify as a Change Manager are: (1) Leader of a significant effort to change something or implement something of significance. (2) Success and failure will be evident. (3) Always something new and unique to the organization. (4) Must get many others to buy in and cooperate. (5) Involves cross-boundary change. (6) High visibility sponsor. (7) Exposure to significant decision makers and key stakeholders. (8) Resistance is expected and near-universal. (9) Cost of failure is significant. Examples include: (1) Total Work Systems like TQM, ISO, or Six Sigma. (2) Business restructurings like a move away from a core competence and into a new product space or industry, i.e., American carmakers move into smaller, more fuel-efficient products. (3) Installing major systems (like an ERP or HRIS) and procedures for the first time. (4) M&A integrations, responding to major competitor initiatives that threaten the organization. (5) Extensive reorganizations. (6) Long-term post-corporate scandal recovery.

## **Section 6: Learning from Your Plan**

*These additional remedies will help make this development plan more effective for you.*

### **Learning to Learn Better**

#### **1. Rehearse Successful Tactics/Strategies/Actions**

Mentally rehearse how you will act before going into the situation. Try to anticipate how others will react, what they will say, and how you'll respond. Check out the best and worst cases; play out both scenes. Check your feelings in conflict or worst-case situations; rehearse staying under control.

#### **2. Study Your History of Conflicts for Insights**

List the people and situations which cause you trouble. What are the common themes? Why do those kinds of people and/or those kinds of situations set you off? Do they have to? Was the conflict really important? Did it help or block your learning and getting things done? Try to anticipate those people/situations in the future.

#### **3. Sell Something to a Tough Group/Audience**

Think of the person or group who will be the toughest to sell, the most critical, skeptical, or resistant, and sell that person or group first. Take time to understand the opposing viewpoints. Find common ground and leverage points; line up your best data and arguments and go for it.

### **Learning from Experience, Feedback, and Other People**

#### **4. Getting Feedback from Peers/Colleagues**

Your peers and colleagues may not be candid if they are in competition with you. Some may not be willing to be open with you out of fear of giving you an advantage. Some may give you exaggerated feedback to deliberately cause you undue concern. You have to set the tone and gauge the trust level of the relationship and the quality of the feedback.

#### **5. Feedback in Unusual Contexts/Situations**

Temporary and extreme conditions and contexts may shade interpretations of your behavior and intentions. Demands of the job may drive you outside your normal mode of operating. Hence, feedback you receive may be inaccurate during those times. However, unusual contexts affect our behavior less than most assume. It's usually a weak excuse.

#### **6. Openness to Feedback**

Nothing discourages feedback more than defensiveness, resistance, irritation, and excuses. People don't like giving feedback anyway, and much less to those who don't listen or are unreceptive. To help the feedback giver, be open, listen, ask for examples and details, take notes, keep a journal, and thank them

## Learning from Courses

### □ 10. Insight Events

These are courses designed around assessing skills and providing feedback to the participants. These events can be a powerful source of self-knowledge and can lead to significant development if done right. When selecting a self-insight course, consider the following: (1) Are the skills assessed the important ones? (2) Are the assessment techniques and instruments sound? (3) Are those who are providing the feedback trained and professional? (4) Is the feedback provided in a user-friendly and “actionable” format? (5) Does the feedback include development planning? (6) Is the setting comfortable and conducive to reflection and learning? (7) Are the other participants the kinds of people you could learn from? (8) Are you in the right frame of mind to learn from this kind of intense experience? Select events on the basis of positive answers to these eight questions.

*Don't be afraid of opposition. Remember, a kite rises against, not with, the wind.* Hamilton Mabie – American essayist

### Suggested Readings

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